

CLAIMS

What is claimed is:

1. An injection nozzle for use in delivering fuel to a combustion space, the injection nozzle comprising a nozzle body, at least a part of which is provided with a first coating arranged so as to reduce the temperature of at least a part of the nozzle body, in use.

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2. The injection nozzle as claimed in Claim 1, wherein the first coating is provided over at least the part of the exterior of the nozzle body which is exposed to the temperature within the combustion space, in use.

3. The injection nozzle as claimed in Claim 2, wherein the injection nozzle is provided with one or more outlet opening, the or each outlet opening being provided in a tip region of the nozzle body which projects from an engine cylinder head within which the injection nozzle is received, in use, into the combustion space.

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4. The injection nozzle as claimed in Claim 3, wherein the first coating takes the form of a thermally insulating coating, the first coating having a thermal conductivity lower than the thermal conductivity of the nozzle body.

5. The injection nozzle as claimed in Claim 4, wherein the thermally insulating coating is a ceramic material.

6. The injection nozzle as claimed in Claim 4, further comprising a further coating formed from a material having a higher thermal conductivity than the thermal conductivity of the nozzle body, wherein the further coating is applied to the first coating to provide a

5 multi-layer coating.

7. The injection nozzle as claimed in Claim 3, wherein the first coating is formed from a material having a higher thermal conductivity than the thermal conductivity of the nozzle body.

8. The injection nozzle as claimed in Claim 7, wherein a part of the tip region of the nozzle body remains uncoated.

9. The injection nozzle as claimed in Claim 7, wherein a part of the tip region of the nozzle body is coated with a second coating formed from a material having a lower thermal conductivity than the thermal conductivity of the nozzle body.

10. The injection nozzle as claimed in Claim 9, wherein the second coating is formed from a ceramic material.

11. The injection nozzle as claimed in Claim 7, further comprising an additional coating formed from a material having a lower thermal conductivity than the thermal conductivity of the nozzle body, wherein the additional coating is applied to the first coating to provide a
5 multi-layer coating.

12. The injection nozzle as claimed in Claim 11, wherein the additional coating is only applied to a part of the first coating which is exposed to the temperature within the combustion space, in use.

13. The injection nozzle as claimed in Claim 1, comprising an additional substrate material applied to the nozzle body, whereby the first

coating is bonded to the nozzle body by means of the additional substrate material.

14. A method of assembling an injection nozzle as claimed in Claim 1, the method comprising the steps of;

initially providing a coating on the nozzle body of the injection nozzle; and

5 subsequently forming one or more outlet opening in the nozzle body by drilling through the coating and the nozzle body.

15. A method of assembling an injection nozzle as claimed in Claim 1, the method comprising the steps of;

forming one or more outlet opening in the nozzle body of the injection nozzle;

5 providing a shielding in a region of the nozzle body of the injection nozzle in which the or each outlet opening is formed; and
subsequently providing a coating on the nozzle body.